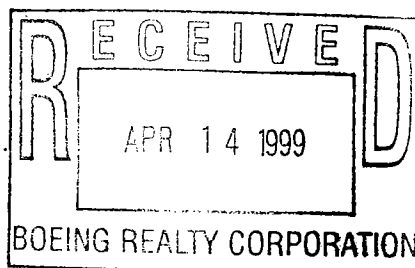




April 12, 1999

46420 4

Ms. Joann Ornelas  
Integrated Environmental Services, Inc.  
3990 Westerly Place, Suite 210  
Newport Beach, California 92660



**Project Deliverables**  
**Site Investigation Services**  
**Building 4, AOI 4**  
**Boeing Realty Corporation, C-6 Facility, Parcel B**  
**Los Angeles, California**

Dear Ms. Ornelas:

Harding Lawson Associates (HLA) has prepared this letter to transmit the project deliverables for site investigation services at former Building 4, Area of Interest (AOI) 4 at Boeing Realty Corporation's C-6 Facility, Parcel B, in Los Angeles, California. HLA's services were provided in accordance with our proposal dated January 12, 1999.

The following items are provided with this letter in hard-copy format:

- Description of site geology observed during the investigation
- Ten boring logs in gINT format
- One field daily report dated March 31, 1999 (hard copy only).

An electronic version of the above deliverables, excepting the field daily report, is provided on CD ROM as an attachment.

### **Site Geology**

A total of 10 soil borings were advanced during site investigation activities to a maximum depth of 17 feet below ground surface (bgs). The borings were advanced using an hydraulic push drill rig. The site geologic descriptions are based on the soils encountered during drilling activities. Groundwater was not encountered during the investigation.

The borings encountered clay and silty sand to the depths investigated. A 3.5- to 7-foot thick layer of clay fill was found in all 10 of the borings. Underlying the fill is a layer of silty sand interpreted as native soil. The native silty sand sediment represents recent alluvium that is a common near surface deposit in the Los Angeles Basin.

April 12, 1999

46420 4

Ms. Joann Ornelas

Integrated Environmental Services, Inc.

Page 2

HLA has appreciated the opportunity to work with you on this project and looks forward to working with you on future projects. Should you have questions regarding this letter, please contact the undersigned.

Very truly yours,

**HARDING LAWSON ASSOCIATES**



Mark Clardy

Project Manager

Attachments: Logs of Borings AOI4A-B1 to AOI4A-B10  
Field Investigation Daily Report, dated March 31, 1999 (4 sheets)  
CD ROM including Letter Report and Boring Logs

N:\BOEING\LETTERS\BLDG4\LTR.DOC

cc: Mr. Mario Stavale - Boeing Realty Corporation

BOEING. C6/

Equipment **Power Probe 9600**

Elevation **51.84 ft** Date **3/31/99**

0  
DARK BROWN SANDY CLAY (CL)  
firm, moist, medium plasticity and toughness  
[ARTIFICIAL FILL]

10  
LIGHT BROWN SILTY SAND (SM)  
medium dense, moist, fine grained [NATIVE]

10

20

30

40

Boring terminated at 12 feet below ground surface.  
Groundwater not encountered during drilling.  
Boring backfilled with medium bentonite chips on 3/31/99.



**Harding Lawson Associates**  
Engineering and  
Environmental Services

## Log of Boring AOI4A-B1

(sheet 1 of 1)

PLATE

**Boeing Realty Corporation**  
**Los Angeles, California**

DRAWN  
HK

PROJECT NUMBER  
46420-5

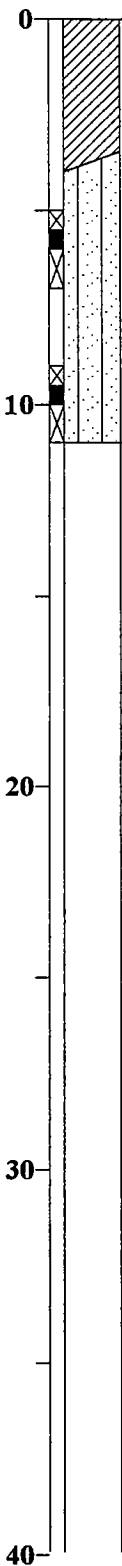
APPROVED

DATE  
04/99

REVISED DATE

BOE-C6-0070447

Equipment Power Probe 9600Elevation 50.58 ft Date 3/31/99

0  
  
 DARK BROWN SANDY CLAY (CL)  
 firm, moist, medium plasticity and toughness  
 [ARTIFICIAL FILL]

9  
 LIGHT BROWN SILTY SAND (SM)  
 medium dense, moist, fine grained [NATIVE]

10  
 Boring terminated at 11 feet below ground surface.  
 Groundwater not encountered during drilling.  
 Boring backfilled with medium bentonite chips on 3/31/99.

20

30

40



**Harding Lawson Associates**  
 Engineering and  
 Environmental Services

**Log of Boring AOI4A-B2**

(sheet 1 of 1)

PLATE

**Boeing Realty Corporation**  
**Los Angeles, California**

DRAWN  
 HK

PROJECT NUMBER  
 46420-5

APPROVED

DATE  
 04/99

REVISED DATE

Equipment **Power Probe 9600**

Elevation **50.09 ft** Date **3/31/99**

0  
DARK BROWN SANDY CLAY (CL)  
firm, moist, medium plasticity and toughness  
[ARTIFICIAL FILL]

LIGHT BROWN SILTY SAND (SM)  
medium dense, moist, fine grained [NATIVE]

10

Boring terminated at 11 feet below ground surface.  
Groundwater not encountered during drilling.  
Boring backfilled with medium bentonite chips on 3/31/99.

20

30

40



**Harding Lawson Associates**  
Engineering and  
Environmental Services

# Log of Boring AOI4A-B3

(sheet 1 of 1)

PLATE

**Boeing Realty Corporation**  
**Los Angeles, California**

DRAWN  
HK

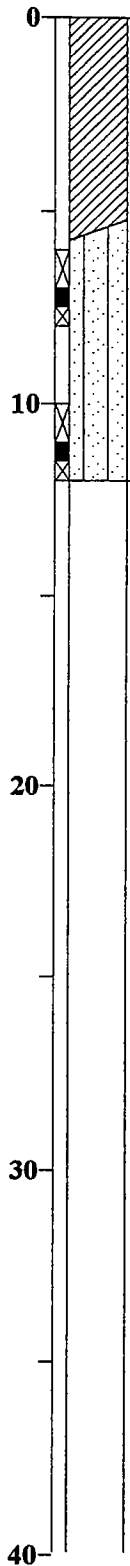
PROJECT NUMBER  
46420-5

APPROVED

DATE  
04/99

REVISED DATE

Equipment **Power Probe 9600**Elevation **52.11 ft** Date **3/31/99**

0  

 DARK BROWN SANDY CLAY (CL)  
 firm, moist, medium plasticity and toughness  
 [ARTIFICIAL FILL]

10  
 LIGHT BROWN SILTY SAND (SM)  
 medium dense, moist, fine grained [NATIVE]

20  
 Boring terminated at 12 feet below ground surface.  
 Groundwater not encountered during drilling.  
 Boring backfilled with medium bentonite chips on 3/31/99.

20

30

40



**Harding Lawson Associates**  
 Engineering and  
 Environmental Services

**Log of Boring AOI4A-B4**

(sheet 1 of 1)

PLATE

**Boeing Realty Corporation**  
**Los Angeles, California**

DRAWN  
 HK

PROJECT NUMBER  
 46420-5

APPROVED

DATE  
 04/99

REVISED DATE

BOILING CAP

Equipment **Power Probe 9600**

Elevation **50.93 ft**

Date **3/31/99**

0  
DARK BROWN SANDY CLAY (CL)  
firm, moist, medium plasticity and toughness  
[ARTIFICIAL FILL]

LIGHT BROWN SILTY SAND (SM)  
medium dense, moist, fine grained [NATIVE]

10

Boring terminated at 11 feet below ground surface.  
Groundwater not encountered during drilling.  
Boring backfilled with medium bentonite chips on 3/31/99.

20

30

40



**Harding Lawson Associates**  
Engineering and  
Environmental Services

## Log of Boring AOI4A-B5

(sheet 1 of 1)

PLATE

**Boeing Realty Corporation**  
**Los Angeles, California**

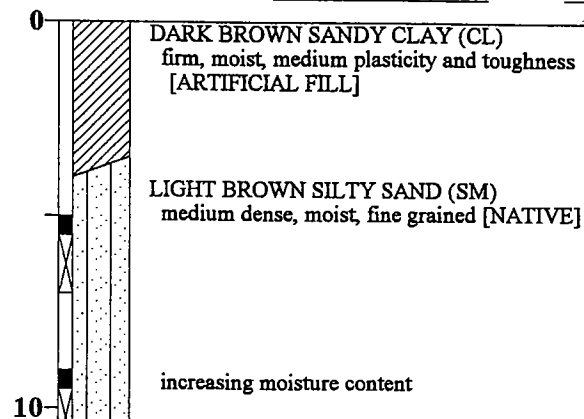
DRAWN  
HK

PROJECT NUMBER  
46420-5

APPROVED

DATE  
04/99

REVISED DATE

Equipment Power Probe 9600Elevation 50.12 ft Date 3/31/99

Boring terminated at 11 feet below ground surface.  
Groundwater not encountered during drilling.  
Boring backfilled with medium bentonite chips on 3/31/99.



**Harding Lawson Associates**  
Engineering and  
Environmental Services

**Log of Boring AOI4A-B6**

(sheet 1 of 1)

PLATE

**Boeing Realty Corporation**  
**Los Angeles, California**

DRAWN  
HK

PROJECT NUMBER  
46420-5

APPROVED

DATE  
04/99

REVISED DATE



BOEING C62/

Equipment Power Probe 9600

Elevation 53.14 ft

Date 3/31/99

0  
DARK BROWN SANDY CLAY (CL)  
firm, moist, medium plasticity and toughness  
[ARTIFICIAL FILL]

10  
LIGHT BROWN SILTY SAND (SM)  
medium dense, moist, fine grained [NATIVE]

20  
Boring terminated at 14 feet below ground surface.  
Groundwater not encountered during drilling.  
Boring backfilled with medium bentonite chips on 3/31/99.

30

40



**Harding Lawson Associates**  
Engineering and  
Environmental Services

## Log of Boring AOI4A-B7

(sheet 1 of 1)

PLATE

Boeing Realty Corporation  
Los Angeles, California

DRAWN  
HK

PROJECT NUMBER  
46420-5

APPROVED

DATE  
04/99

REVISED DATE

BOEING.C01/

Equipment **Power Probe 9600**

Elevation **51.63 ft** Date **3/31/99**

0  
DARK BROWN SANDY CLAY (CL)  
firm, moist, medium plasticity and toughness  
[ARTIFICIAL FILL]

LIGHT BROWN SILTY SAND (SM)  
medium dense, moist, fine grained [NATIVE]

10

Boring terminated at 11 feet below ground surface.  
Groundwater not encountered during drilling.  
Boring backfilled with medium bentonite chips on 3/31/99.

20

30

40



**Harding Lawson Associates**  
Engineering and  
Environmental Services

## Log of Boring AOI4A-B8

(sheet 1 of 1)

PLATE

**Boeing Realty Corporation**  
**Los Angeles, California**

DRAWN  
HK

PROJECT NUMBER  
46420-5

APPROVED

DATE  
04/99

REVISED DATE

BOE-C6-0070454

BOILING GRAY

Equipment **Power Probe 9600**

Elevation **50.60 ft**

Date **3/31/99**

0  
DARK BROWN SANDY CLAY (CL)  
firm, moist, medium plasticity and toughness  
[ARTIFICIAL FILL]

LIGHT BROWN SILTY SAND (SM)  
medium dense, moist, fine grained [NATIVE]

10

Boring terminated at 11 feet below ground surface.  
Groundwater not encountered during drilling.  
Boring backfilled with medium bentonite chips on 3/31/99.

20

30

40



**Harding Lawson Associates**  
Engineering and  
Environmental Services

## Log of Boring AOI4A-B9

(sheet 1 of 1)

PLATE

**Boeing Realty Corporation**  
**Los Angeles, California**

DRAWN  
HK

PROJECT NUMBER  
46420-5

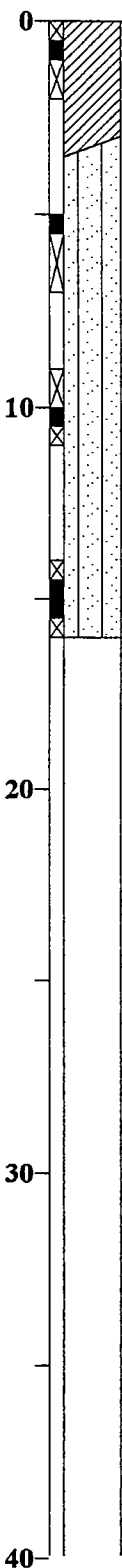
APPROVED

DATE  
04/99

REVISED DATE

BOE-C6-0070455

Equipment **Power Probe 9600**Elevation **49.91 ft**Date **3/31/99**

0  
  
 DARK BROWN SILTY CLAY (CL)  
 firm, moist, medium plasticity, trace sand [ARTIFICIAL FILL]

LIGHT BROWN SILTY SAND (SM)  
 medium dense, moist, fine grained [NATIVE]

10

20

30

40

Boring terminated at 16 feet below ground surface.  
 Groundwater not encountered during drilling.  
 Boring backfilled with medium bentonite chips on 3/31/99.



**Harding Lawson Associates**  
 Engineering and  
 Environmental Services

**Log of Boring AOI4A-B10**

(sheet 1 of 1)

PLATE

**Boeing Realty Corporation**  
 Los Angeles, California

DRAWN  
 HK

PROJECT NUMBER  
 46420-5

APPROVED

DATE  
 04/99

REVISED DATE

Sheet 1 of 1

Project: BOEING - BLDG. 4 SOIL BORINGS Job No.: 46420-2  
 Subject: FIELD INVESTIGATION DAILY REPORT Date: 3-31-99  
 Equipment Rental: \_\_\_\_\_ Company: \_\_\_\_\_ To: M. CLARDY  
 Equipment Hours: \_\_\_\_\_ F.E. Time from: \_\_\_\_\_ to: \_\_\_\_\_ By: V. MATHUR

(outside service and expense record must be attached for any outside costs)

me  
4/1/99

05:30 LEAVE FOR SITE, PICK UP ICE.

07:00 MEET ANDERSON (IES) AND GREGG DRILLING (JOE + MARTIN)

07:20 H+S MEETING WITH BATLEY CONSTRUCTION, SET UP  
ON BATTERY ROOM BORING B10.

08:28 DUPLICATE B10 AT 15' SAMPLE TAKEN (15D)

08:38 B10 COMPLETE. MOB TO GRID LOCATION B1, DRILL  
B1 TO B9 IN SEQUENCE.

B7 B4 B1

B8 B5 B2

B9 B3  
B6

B10

BATTERY ROOM

10:00 SHIFT B3 WEST ABOUT 6' FROM ORIGINAL GRID LOCATION  
DUE TO CONCRETE AT 2' BGS.

11:35 SHIFT B6 SOUTH ABOUT 8' FROM ORIGINAL GRID  
LOCATION DUE TO CONCRETE AT 2' BGS.

12:05 UPDATE M. CLARDY, 3 HOLES REMAIN.

13:30 UPDATE M. CLARDY, RINSATE BLANK REMAINS.

14:00 GREGG DISPOSED 5 GAL OF DECON. WATER INTO  
BAKER TANK. GREGG DRILLING OFFSITE, VMA FILLING  
OUT C.O.C'S.

15:20 HEAD TO OCA LAB

16:24 SUBMIT SAMPLES TO OCA LAB.

Attachments:

Initial VIM

Harding Lawson Associates

BOE-C6-0070457



# ORANGE COAST ANALYTICAL, INC.

3002 Dow, Suite 532

Tustin, CA 92780

(714) 832-0064, Fax (714) 832-0067

## Analysis Request and Chain of Custody Record

4620 E. Elwood, Suite 4

Phoenix, AZ 85040

(602) 736-0960 Fax (602) 736-0970

Lab Job No: \_\_\_\_\_

Page 1 of 3

REQUIRED TAT: 24 HR

CUSTOMER INFORMATION			PROJECT INFORMATION				ANALYSIS METHOD REQUEST										REMARKS/PRECAUTIONS
COMPANY:	SEND REPORT TO:		PROJECT NAME:	NUMBER:	LOCATION:	ADDRESS:	SAMPLED BY:	EPA METALS	ECOL	PH	PCB	EPA 8080 ACD	OTHER				
Harding Lawson Associates	J. Ornelas - IESI		BLDG 4, AOI 4, BRC				V. Mathur										
30 Corp Park	Irvine CA																
PHONE:	FAX:																
SAMPLE ID	NO. OF CONTAINERS	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES.											
AOI 4-B10-1-0.5	1	3-31-99	0800	SOIL	6" Bagg	None	X	X						Fix results to IESI			
AOI 4-B10-2-5			0810				X	X									
AOI 4-B10-3-10			0822				X	X									
AOI 4-B10-4-15D			0828				X	X									
AOI 4-B10-4-15			0831				X	X									
AOI 4-B1-1-7			0905											HOLD			
AOI 4-B1-2-11			0912											HOLD			
AOI 4-B2-1-5.5			0927						X								
AOI 4-B2-2-9.5			0933											HOLD			
AOI 4-B3-1-5.5			1008											HOLD			
AOI 4-B3-2-9.5			1018											HOLD			
AOI 4-B4-1-7			1035											HOLD			
AOI 4-B4-2-11			1040											HOLD			
AOI 4-B5-1-5.5			1059											HOLD			
Total No. of Samples: <u>14</u>			Method of Shipment:														
Relinquished By: <u>V. Mathur</u>		Date/Time: <u>3/31/99 16:25</u>	Received By:		Date/Time:		Reporting Format: (check)										
Relinquished By:		Date/Time:	Received By:		Date/Time:		NORMAL _____ S.D. HMMD _____										
Relinquished By:		Date/Time:	Received By:		Date/Time:		RWQCB _____ OTHER _____										
Relinquished By:		Date/Time:	Received For Lab By: <u>V. Mathur</u>		Date/Time: <u>3-31-99 11:25</u>		Sample Integrity: (check)										
Relinquished By:		Date/Time:	Received For Lab By:		Date/Time:		intact _____ on ice _____										

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pickup samples.



(602) 736-0960 Fax (602) 736-0970

Page 2 of 2

REQUIRED TAT: 24 HR

CUSTOMER INFORMATION			PROJECT INFORMATION				ANALYSIS/METHOD REQUEST										REMARKS/PRECAUTIONS
COMPANY:	SEND REPORT TO:		PROJECT NAME:	NUMBER:	LOCATION:	ADDRESS:	PHONE:	FAX:	SAMPLED BY:	PCB	EPA 8080	MOD	TOX	PAH	OTHER		
HARDING LARSON	J. GENTILE - TEST		BLOG 4, ACI 4, BRC						V. AIATHUR								
ADDRESS: 1000 PARK																	
ADDRESS: 1000 PARK																	
PHONE:																	
FAX:																	
SAMPLE ID			NO. OF CONTAINERS	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES.									
ACI 4 - 85 - 2 - 9.5			1	3-31-99	1106	SOIL	1.5 2255	NONE	X								
ACI 4 - 86 - 1 - 5					1143											HOLD	
ACI 4 - 86 - 2 - 9					1148											HOLD	
ACI 4 - 87 - 1 - 8.5					1226											HOLD	
ACI 4 - 87 - 2 - 12.5					1233											HOLD	
ACI 4 - 88 - 1 - 5.5					1246				X								
ACI 4 - 88 - 2 - 9.5					1253											HOLD	
ACI 4 - 89 - 1 - 5					1312											HOLD	
ACI 4 - 89 - 2 - 9			↓		1318	↓	↓	↓								HOLD	
ACI 4 - CUSATE - 1			3		1345	WATER	*	1 POLY 11403	X	X	X					* 3 POLY, 1 AMBER	
ACI 4 - C1/B1.2.3-1-1			1		1008	COMPOSITE SOIL	JAR 402	NONE	X								
ACI 4 - C2/B1.2.3-2-5			↓		1018	↓	↓	↓	X								
ACI 4 - C3/B4.5.6-1-1			↓		1143	↓	↓	↓	X								
ACI 4 - C4/B4.5.6-2-5			↓	↓	1148	↓	↓	↓	X								
Total No. of Samples: 14				Method of Shipment:													
Relinquished By: [Signature] Date/Time: 3/31/99 16:25				Received By: [Signature] Date/Time: [Signature]				Reporting Format: (check)									
Relinquished By: [Signature] Date/Time: [Signature]				Received By: [Signature] Date/Time: [Signature]				NORMAL _____ S.D. HMMD _____									
Relinquished By: [Signature] Date/Time: [Signature]				Received For Lab By: [Signature] Date/Time: [Signature]				RWQCB _____ OTHER _____									
Relinquished By: [Signature] Date/Time: [Signature]				Received For Lab By: [Signature] Date/Time: [Signature]				Sample Integrity: (check)									
								Intact _____ on ice _____									

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pickup samples.

BOE-C6-0070459



# ORANGE COAST ANALYTICAL, INC.

3002 Dow, Suite 532  
Tustin, CA 92780

(714) 832-0064, Fax (714) 832-0067

4620 E. Elwood, Suite 4.  
Phoenix, AZ 85040

(602) 736-0960 Fax (602) 736-0970

Lab Job No: \_\_\_\_\_

Page 3 of 3

REQUIRED TAT: 24 HR

CUSTOMER INFORMATION			PROJECT INFORMATION				ANALYSIS/METHOD REQUEST										REMARKS/PRECAUTIONS
COMPANY: <u>HARDING LAMSON</u>			PROJECT NAME: <u>BLOG 4, AOT4, BRC</u>				<div>ANALYSIS/METHOD REQUEST</div> <div>P/B EPA 8080 Mod</div>										
SEND REPORT TO: <u>J. CORNELAS - ICSI</u>			NUMBER: _____														
ADDRESS: <u>10 CORP PARK</u>			LOCATION: _____														
<u>IRVINE CA</u>			ADDRESS: _____														
PHONE: _____ FAX: _____			SAMPLED BY: <u>V. MATHUR</u>														
SAMPLE ID	NO. OF CONTAINERS	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES.											
<u>AOT4-C5/87,8,9-1-1</u>	<u>1</u>	<u>3-31-99</u>	<u>1312</u>	<u>WATER</u>	<u>JAR</u>	<u>NCNE</u>	<u>X</u>										
<u>AOT4-C6/87,8,9-2-5</u>	<u>↓</u>	<u>↓</u>	<u>1318</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>X</u>										
<div></div>																	
Total No. of Samples: <u>2</u>			Method of Shipment: _____														
Relinquished By: <u>V. Mathur</u> Date/Time: <u>3-31-99 16:25</u>			Received By: _____ Date/Time: _____					Reporting Format: (check) NORMAL _____ S.D. HMMD _____ RWQCB _____ OTHER _____									
Relinquished By: _____ Date/Time: _____			Received By: _____ Date/Time: _____														
Relinquished By: _____ Date/Time: _____			Received For Lab By: <u>V. Mathur</u> Date/Time: <u>3-31-99 16:25</u>					Sample Integrity: (check) intact _____ on ice _____									

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pickup samples.